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EG&G ROCKY FLATS

INTEROFFICE CORRESPONDENCE

DATE: August 23, 1991

TO: T. C. Greengard, Remediation Programs, Bldg. T130B, X7121

FROM: K. C. London, Plant Review, Denver West, 273-6189

SUBJECT: CATEGORICAL EXCLUSION - KCL-0132-91

Attached is the DOE determination that your project fits within one of the Categorical Exclusions promulgated in 10 CFR 1021 and amendments. This determination completes the NEPA process for your project. If any scope changes arise that might change the project so it no longer fits within the Categorical Exclusion, please contact me, as we may need to modify the documentation.

bmb

Attachment:
As Stated

cc:
File
S. M. Nesta
C. D. Reno

A-DU02-000849

Document Classification
Review Waiver per RFP
Classification Office

RFO/CX-010-91

CATEGORICAL EXCLUSION FOR

OPERABLE UNITS 1 AND 2 SURFICIAL SIMULATION AND SAMPLE ROCKY FLATS PLANT

Proposed Action
Operable Unit (OU) 1 and OU2 Surficial Soil Simulation and Sampling

Location of Action
Testing and sampling will be conducted in the vicinity of the 903 Pad Area at Rocky Flats Plant, Golden, Colorado.

Description of the Proposed Action

Rocky Flats Plant proposes to study the spatial and vertical distribution of plutonium (Pu) and americium (Am) in soils of remedial investigation areas in the buffer zone within OU1 and OU2. Radionuclide transport in soils is not well understood. Pu may become mobile in soils when there is sufficient precipitation to induce leaching within the soil resulting in contamination of subsurface soils and groundwater. The area surrounding the 903 pad has been previously characterized as contaminated with both Pu and Am, and is suspected to be the source of contamination of the surface soils and surface and groundwater down gradient of the area.

The spatial distribution of Pu and Am will be determined by sampling 121 plots in OU1 and OU2 shown on figure 1. A Colorado Department of Health sampling device (a device about 4 by 5 inches) will be used to take surface soil samples in each of the 121 plots by hand. The sampler removes about a tablespoon of soil each time it is used. Approximately 25 samples will be taken in a 10-acre area and combined to represent that area.

The vertical distribution of Pu will be assessed by sampling 26 soil pits shown on figure 2 (X_1-X_{26}). The distribution of actinides in soils is highly affected by soil characteristics such as moisture content, texture, density, and cohesiveness. All of the major soil types east of the 903 pad will be sampled. Soil pits (7 feet (ft) long x 5 ft wide x 4 ft deep) will be excavated by backhoe in undisturbed or minimally disturbed areas. The soil sampling for assessing Pu content with depth will consist of seven samples taken from each pit according to the following scheme: the upper 12 centimeters (cm) will be sampled in 3 cm intervals; the next 12 cm will be sampled in 6 cm intervals; the next 24 cm will be sampled in 12 cm intervals; and the remaining 48 cm will be sampled in 24 cm intervals. All soil sampling pits will be refilled with the excavated material when sampling is completed.

A study of the solute transport in soils will consist of installing soil solution samplers (zero tension samplers, fluxmeters, tipping bucket gages, soil moisture probes, and telemetry communication devices) in five of the soil pits (X_1-X_5) to determine the movement of interstitial water and the concentrations of actinides in these waters. The sampling equipment will be placed on the upgradient wall of the pit in virtually undisturbed soils before backfilling. The soil pits will be refilled leaving the samplers in place. After installation of the equipment, a sprinkler will be used to spray a solution with the chemical makeup of rain onto the 5 soil pits from a height

of no more than 2 meters over a period of about 1 month. The area of the spray will include 2 meters on each side of a pit or a total area of 25 square meters per pit. The quantity of solution sprayed will approximate the frequency, duration, and intensity of natural rainfall received at the plant site in 2 years based on the historical records of the area. Soil solution will be collected and submitted for radionuclide analyses. The water samplers will be left in place in the pits from 1 to 3 years to track the migration of actinides in the soil under natural precipitation conditions.

The proposed action meets all the requirements of the categorical exclusion to be applied. The soil sampling activities will take place outside wetlands and floodplains. The project is planned to commence on August 1, 1991, as part of the Phase II Resource Conservation and Recovery Act (RCRA) Facility Investigation/Remedial Investigation Work Plan for OU2. Cost of the project is $750,000.

Categorical Exclusion to be Applied

The proposed action meets the requirements of the following categorical exclusion:

> Site characterization and environmental monitoring, including siting, construction, or operation of characterization and monitoring devices, sampling and characterization of water, soil, rock, and contaminants, under Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and RCRA, if the activities would not introduce or cause the inadvertent or uncontrolled movement of hazardous substances as defined in section 101(14) of CERCLA, pollutants or contaminants as defined in section 101(33) of CERCLA, or nonnative organisms, and would not adversely affect sensitive areas as defined in paragraph 4, (Department of Energy (DOE) National Environmental Policy Act (NEPA) Guidelines, 55 FR 37178).

Compliance Action

I have determined that the proposed action meets the requirements for a categorical exclusion as defined in the Section D of the DOE NEPA Guidelines. Therefore, I approve the categorical exclusion of the proposed action from further NEPA review and documentation.

Approval: _____
Leo P. Duffy, Director
Office of Environmental Restoration
and Waste Management

Date: 8/2/91

EH-25 has reviewed this determination and has no objection.

Signature: Carol Borgstrom
Carol Borgstrom, Director
Office of NEPA Oversight, EH-25

Date: 8/6/91